DOCUMENT RESUME

ED 283 976 CE 047 644

AUTHOR Davis, Michael J.
TITLE Rehabilitation Associate Training for Employed Staff. Introduction to Systematic Instruction (RA-1).
INSTITUTION Ellsworth Community Coll., Iowa Falls, IA.; Wisconsin Univ.-Stout, Menomonie. Stout Vocational Rehabilitation Inst.
SPONS AGENCY Rehabilitation Services Administration (ED), Washington, DC.
PUB DATE 82
GRANT 44-P-81418/7-02
NOTE 58p.; For related documents, see CE 047 642-655.
AVAILABLE FROM Materials Development Center, Stout Vocational Rehabilitation Institute, University of Wisconsin-Stout, Menomonie, WI 54751.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Behavioral Objectives; Behavior Modification; Classroom Observation Techniques; *Counselor Training; Goal Orientation; Inservice Education; *Instructional Systems; Learning Activities; Learning Modules; Postsecondary Education; *Rehabilitation Counseling; *Systems Approach; Task Analysis; *Teaching Methods; *Vocational Rehabilitation
IDENTIFIERS Goal Setting

ABSTRACT

This learning module, which is intended for use in in-service training for vocational rehabilitation counselors, presents a model for systematic instruction that can be used as the basis of a rehabilitation associate training program. The model emphasizes clear descriptions of goals, direct teaching of skills, and evaluation of progress on a regular basis. The following topics are discussed in the individual sections of the module: systematic instruction as a philosophy and a process; the components of systematic instruction (assessing skills, determining goals and objectives, performing a task analysis, choosing a behavior measure, measuring the baseline level, assessing the environment, establishing and writing an instructional procedure, implementing the procedure, modifying the program, establishing maintenance and generalizing programs, and communicating the results); procedures for setting long- and short-range goals and objectives; principles of behavior; and our influence on others. A list of recommended readings and three self-tests are also provided. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED283976

HUMAN SERVICES PROGRAM

ELLSWORTH COMMUNITY COLLEGE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

REHABILITATION ASSOCIATE
TRAINING FOR EMPLOYED STAFF

Introduction to Systematic Instruction (RA-1)

CE054764

MDC

PRINTED AND DISTRIBUTED BY:
MATERIALS DEVELOPMENT CENTER

Stout Vocational Rehabilitation Institute
University of Wisconsin-Stout • Menomonie, WI 54751

BEST COPY AVAILABLE

Copyright, 1982, Merged Area (Education)
VI Community College District, an Iowa
school corporation

The Materials Development Center is partially
funded by the REHABILITATION SERVICES ADMINISTRATION,
U.S. DEPARTMENT OF EDUCATION, Washington, D.C.

INTRODUCTION TO SYSTEMATIC INSTRUCTION

by

Michael J. Davis, Ph.D.

Design: Debbie Anders-Bond, B.F.A.

Produced by
R.A.T.E.S.

Rehabilitation Associate Training
for Employed Staff

Ellsworth Community College
1100 College Avenue
Iowa Falls, Iowa 50126

Project Director: Michael J. Davis, Ph.D.

Editor: Michael W. Trace, M.A.

The production of this publication was supported in part by Grant No. 44-P-81418/7-02 from the Rehabilitation Services Administration. However, its contents are solely the responsibility of the authors and are in no way the responsibility of the Rehabilitation Services Administration.

REHABILITATION ASSOCIATE TRAINING
FOR EMPLOYED STAFF

MODULE: RA-1 Systematic Instruction

DESCRIPTORS: *Systematic instruction, goals, objectives, data, behavioral observation, task analysis, program plans, behavior principles*

OVERVIEW: Systematic Instruction forms the basis for all of the Rehabilitation Associate training program. This model emphasizes clear descriptions of goals, the direct teaching of skills and evaluation of progress on a regular basis. Students will review the Systematic Instruction process, including goal-setting, behavioral observation, task analysis and the use of the principles of behavior.

Objectives----------6

Introduction----------8

Defining Systematic Instruction----------9

Components of Systematic Instruction----------10

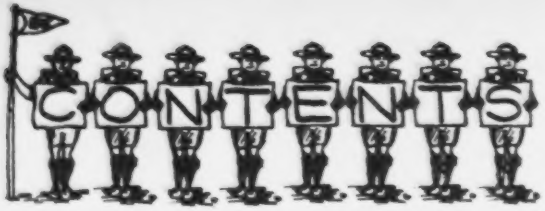
1. Assess Skills----------11
2. Determine goals & objectives----------12
3. Task-analyze the skill----------14
4. Choose a behavior measure----------16
5. Measure the baseline level----------19
6. Assess the environment----------21
7. Establish & write an instructional procedure----------23
8. Implement the procedure----------24
9. Modify the program----------24
10. Establish maintenance & generalization programs----------25
11. Communicate the results----------25

Setting objectives----------27

Long-Range Goals----------28

Short-Term Objectives----------35

Principles of Behavior----------43



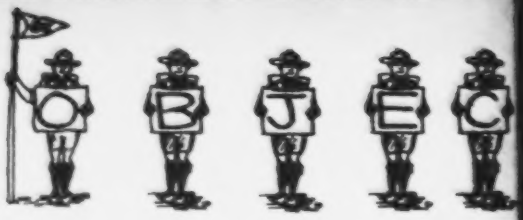
Our Influence on Others----------48

Recommended Readings----------50

Self Test 1----------51

Self Test 2----------52

Self Test 3----------54



BEHAVIOR

1. List the steps in systematic instruction.
2. Describe the role of the IPP in systematic instruction.
3. Determine whether or not short-term objectives have been written correctly.
4. Describe 2 reasons for the use of task analysis.
5. List 2 reasons for the use of measuring behavior in implementing a systematic instruction program.
6. List 2 reasons for gathering baseline data before implementing a program.
7. Determine behavior principles being illustrated in specific situations.

EVALUATION

1 Class Test

2 Class Test

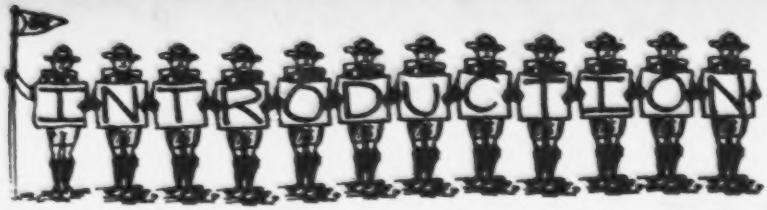
3 Class Test. Will be given 10 short-term objectives to make determinations of.

4 Class Test

5 Class Test

6 Class Test

7 Class Test. will be given hypothetical situations identifying behavior, procedures and effect . . . and must make determinations.



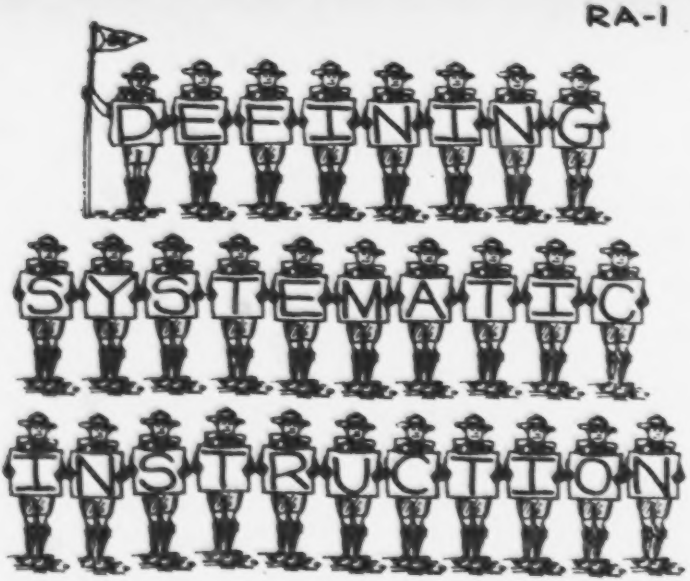
Many professions follow what can be called "standard operating procedures" which outline general steps to follow in accomplishing their respective tasks. For example, Emergency Medical Technicians are instructed to follow the "A-B-C's" (Airway, then Breathing and then Circulation) in establishing priorities for treating accident victims. Mechanics, surgeons, construction workers, etc. all have general guidelines to follow which experience has shown to provide the most efficient and effective operations.

Systematic Instruction procedures are the "standard operating procedures" for behavior technicians. They are steps and guidelines that experience has shown to be most effective in client training. As in the other professions, they are *general* procedures around which more *detailed* principles are built. They provide the framework around which to do good training.

This module is an introduction to this format for client training. It will provide you with a basic understanding of the important features of Systematic Instruction, including what objectives should look like, the purposes of task analysis and data collection and the principles of learning.

Completing this module will not make you an instant expert in any of the above topics. The module is intended only as an introduction, a chance to learn or review some of the concepts and language needed for this as well as other training courses. More detail on specific components is covered in other modules (i.e., Task Analysis, Behavior Observation and Measurement).

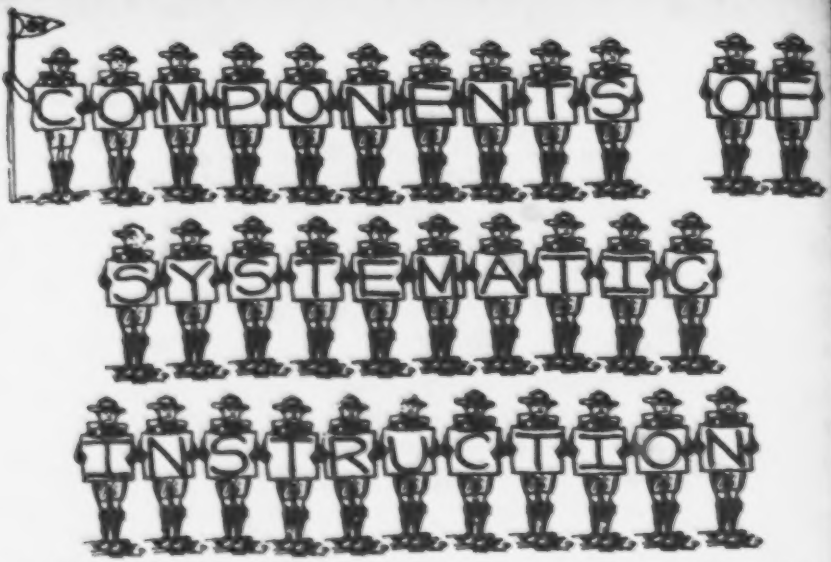
8 *Systematic Instruction refers to standard operating procedures for behavior technicians.*



The first thing we ought to do is describe what Systematic Instruction is *not*. Systematic Instruction is *not* a curriculum or set of materials. You and I both know that different clients are working on different objectives and have different needs. Systematic Instruction is *not* a set of procedures that will automatically get every client to follow directions and work hard. Again, you and I both know that different clients work for different reasons and no one set of methods works for everyone.

Well then, what is it? *Systematic Instruction is a philosophy and a process.* It is the philosophy that when someone has a behavior problem or handicap, the best way to deal with it is to directly teach or improve skills needed to overcome it. It is a process that leads you through a series of steps to ask the questions and make the decisions which will lead to the most effective and efficient teaching procedures for your clients.

We have given names to the steps, or components, of the Systematic Instruction process to make it easier to communicate. Don't worry about the name; look at the function of each component. You may find that you are already using much of this process, although you may call it something else.

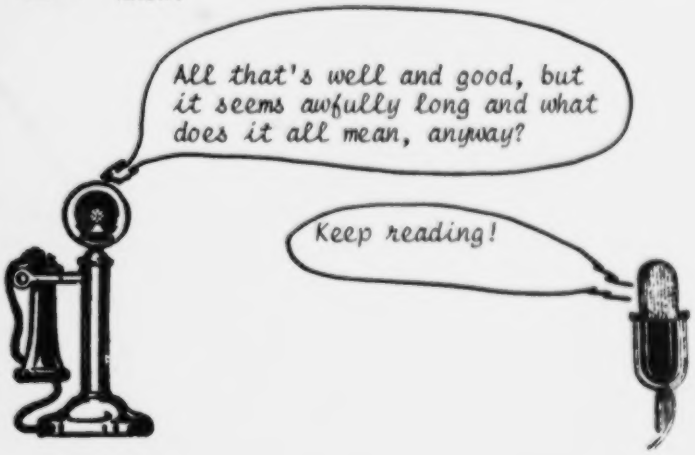


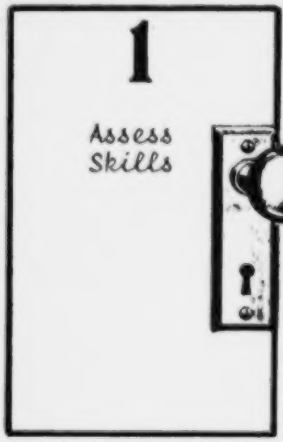
Whatever you call it, Systematic Instruction includes the following steps:

1. Assess skills which the client has.
2. Use the Individual Program Plan (IPP) process to determine the long-term goals and short-term objectives necessary to reach the goals.
3. Where the short-term objective involves learning or improving a skill, task-analyze the skill into its necessary components.
4. Choose a practical and useful way to measure the behavior.
5. Measure the behavior to determine its baseline level.
6. Assess the environment in which the behavior is to be used.
7. Establish and write an instructional procedure.
8. Implement the procedure and assess its effect on behavior.
9. Modify the plan if necessary.

10 *Establish programs to maintain and generalize the learned skill.*

11 *Communicate the results to people who should know.*

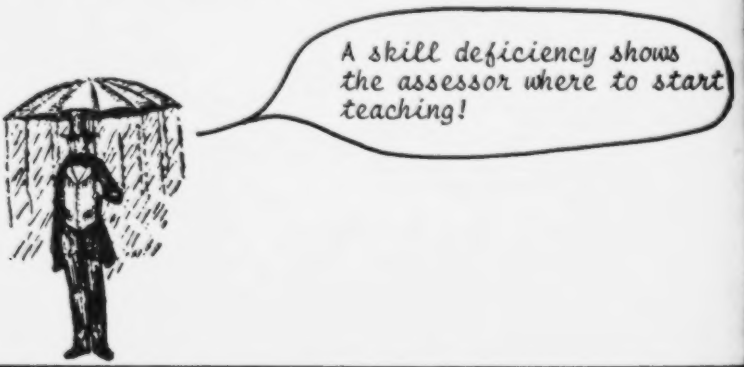




When a client enters your facility, s/he already has a label pinned on: *retarded, low functioning, mentally ill, alcoholic, behavior problem, physically disabled.* The list is almost endless. What does the label tell you about the client's skills? Not much. You have probably seen the severely retarded client with an I.Q. of 28 who can't talk, who *looks* severely retarded, but who can perform all necessary hygiene tasks and who attends to his assigned tasks for long periods of time and works conscientiously and carefully. You may have seen another client with the same label who *can* talk, but she wanders around aimlessly. In order to know what to teach, you need to know the client's skills, strengths and weaknesses.

1)

Remember in assessment that a skill deficiency does not mean a limit (except in clear cases of organic problems, such as blindness or loss of limb). A skill deficiency nearly always means *an opportunity to teach*. Thus, assessment is not for the purpose of discovering limits, nor is it for assigning people to jobs within their present capabilities. It is for finding out what skills clients still need to learn and where to start teaching



2

Determine goals and objectives

If your agency is accredited, it already has a procedure for preparing goals and objectives for clients. This is a transdisciplinary procedure in which the client is involved as well as at least one staff member. In addition, parents, therapists, counselors and other staff members may be part of the team. Goals and objectives are determined by the team. They are negotiated, not dictated.

The goals and objectives should be based on the assessment of the client's wishes. Long-term goals are the guides by which staff and clients determine where they are going. They provide a consistent viewpoint for developing programs. The establishment of long-term goals is like taking a trip. First you figure out where you are; that is the purpose of assessment. Then you decide where you want to go; that is the purpose of long-term goals. As Mager (1962) said,

When you teach, *the assessment information tells you where you are. The long term goals describe where you are going.* Where you are going is the business of the IPP process. The goals are determined by a whole team, not by any one person. The client and, if appropriate, his/her guardian describe what they want the goals to be. Therapists and other professionals propose goals which they feel to be important. The instructors/trainers/supervisors who work with the client each day tell what they feel are important goals for the client's daily functioning. Then the whole team negotiates and sets priorities which will guide the rest of the Systematic Instruction process for that client.

From the long-term goals you need to establish short-term objectives. *Short-term objectives are those behavior changes which need to occur on the way to reaching long-term goals.* Short-term objectives are usually those which you think can be reached in about 90 days. They build on each other on the way to the long-term goal.

13

3

Task-analyze the skill

The clients we deal with often have great difficulties in learning new skills. Many of the skills they are to be taught must first be broken down into small, teachable steps. These steps must be sequenced in both a logical and effective order. *For example*, the task of bolting two metal pieces together might include steps of picking up and orienting one piece on a jig, picking up a washer, putting it on a bolt, putting the bolt through a hole in the metal piece, picking the piece and bolt up, picking up the other piece and putting the hole in that piece over the bolt, picking up a lock washer and putting it over the bolt, picking up a nut and hand-screwing it on the bolt and tightening the bolt. Of course, this task might be broken down into more steps for a particular client or may be taught in only three or four steps to another client. Other behaviors such as self-care and hygiene skills, recreation skills and even social skills such as greeting a person can be broken down into teachable steps in just the same way.

There are several reasons why task analysis is useful. Task analysis makes teaching easier. It allows instruction to be adapted to the individual client's problems, barriers and skills. It provides an objective way to evaluate whether the teaching is working. It makes it easier for another person to continue the training in other settings or when the usual instructor isn't available.

Makes teaching easier: In teaching, we often give long instructions and confusing demonstrations. Then we complain that the student is too retarded to learn the skill. There have been many demonstrations that handicapped clients can learn very complex skills if these skills are broken down into a consistent and clear set of simple skills. Then, each simple skill can be taught and sequenced in a chain. When the chain of simple skills has been learned, the complex skill has been learned.

RA-1

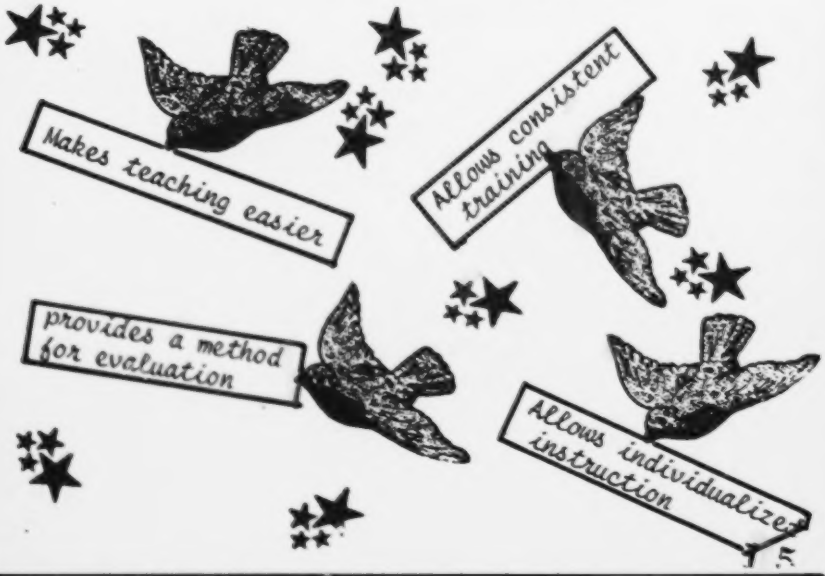
Allows individualized instruction: Task analysis shows the instructor the steps at which the client can and cannot succeed; it clarifies what subskills the client has yet to learn, i.e., what skill must be taught. It also allows clients to work at their own rate of progress.

Evaluation: Task analysis provides one way to measure a client's progress toward short-term objectives. Progress can be measured in terms of the number of steps which a client can do independently or in terms of the amount of help a client needs in order to complete steps. This type of evaluation is much more precise than simply measuring the complete task.

Allows consistent training: The task analysis makes it easier to communicate exactly which steps are being taught and how they are being taught.

Because of these four advantages, it is often useful to task analyze skills to be taught. This may occur before or after setting the short-term objectives.

Task Analysis:



4

Choose a behavior measure

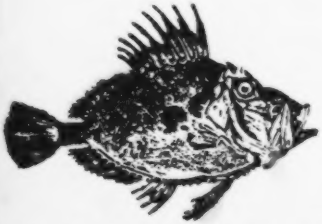
You will need to determine how to measure the progress being made by a client. There are several reasons for measuring behavior. The first and most important is *to help you make decisions* on the teaching programs you are using. Regular, frequent measurement of progress will show you whether adequate progress is being made. If it is, you continue the program. If it is not, you must revise either the program or the objective. *For example*, if a client has learned all but one or two steps in a skill but has made no progress on those steps, you may decide to break those steps into smaller steps, to provide rewards for those steps, to temporarily pull those steps out and teach them intensively or to revise the method by which the person does the task so that s/he does not need to learn those steps at all. It makes no sense to waste weeks of training only to find out that a client has not learned; regular measurement of the behavior will point out lack of progress early so that you can change what you are doing. Regular measurement will also show you when you are making progress so that you do not stop using a teaching method that works.

Measuring progress helps you make decisions since you can tell if your teaching methods are working!

A second purpose for measuring progress is <u>accountability</u>. Accountability means *providing documentation that you are doing what you say you are doing*. If you establish a training program, you need to show that the training program works. In other words, your agency is being paid to do a job and must show that it is doing that job at an acceptable level. This does not imply that an agency can or should be successful in training each client on each objective. It simply means that an agency should document the progress that it makes with clients.

Measuring progress provides documentation that you are accountable!

Communication among staff, parents, clients and other agencies is a third purpose of measuring behavior. When a client asks, *"How am I doing?"* or another staff member asks, *"Is John making progress?"* you can show clearly how well the client is doing.



Measuring progress aids communication among staff!

Finally, measurement of client progress is *required by accreditation standards*. Although these standards vary among accrediting boards and surveyors, they all require at least periodic direct measurement of progress on short-term objectives.

Accreditation standards require measurement of progress!

Some people see the measurement of behavior as just more paperwork. After all, aren't all agencies already understaffed and buried by regulations? Collecting data on progress does take time, but it also prevents wasting time on useless or harmful teaching and supervision procedures. Because collecting data takes time, you should follow three principles:

MOTTOS FOR MEASUREMENT

Data are for using. *If you take data, use the data.* If all you do is file it, forget it.

When taking data, *use the behavior measure which gives you the information you need.* If you are interested in speed, use rate. The most common dimensions of behavior are accuracy, proficiency (accuracy and rate combined), speed, duration and latency (lateness). Another critical dimension is how much help is required from the instructor for the client to carry out the task.

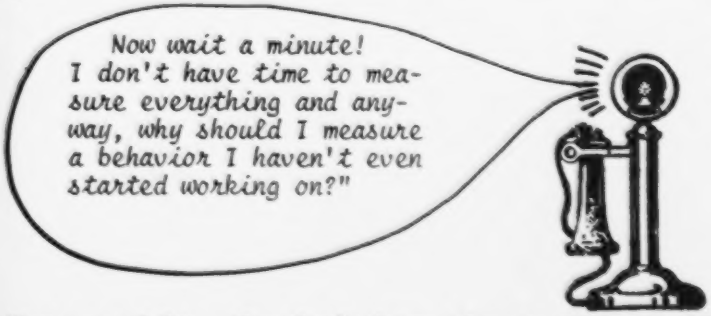
Use the easiest behavior measure you can find that still tells you what you want to know.

5

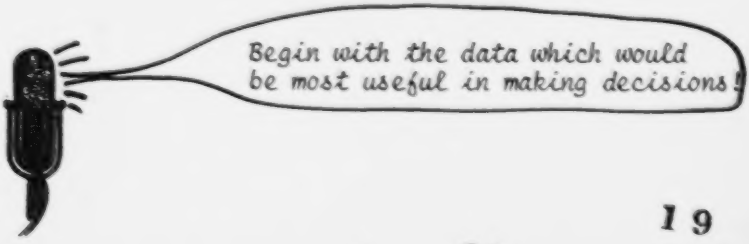
Measure the baseline level

After you have chosen a behavior measure, when, how often and for how long the behavior will be measured and who will collect the data, you begin to actually do the measurement. And *this is very important* you begin to measure the behavior before you ever try to do the training program for that behavior; i.e., you take baseline. *You begin collecting data on how accurate, fast, proficient, long or late the behavior is even before you try to change it.*

"Now wait a minute," you say. (I know you are reading this somewhere and I'm probably in my office or maybe at home, but I can hear you say it.)


Now wait a minute! I don't have time to measure everything and anyway, why should I measure a behavior I haven't even started working on?"

You are right. You don't have time to measure all the objectives for all your clients every day. When you begin taking data, start small. Measure only one behavior the first day and go from there. Of course, you are probably keeping track of some things now, like production rates. In that case, add one new one. Which behaviors do you measure first? Remember the rule: *DATA ARE FOR USING!*



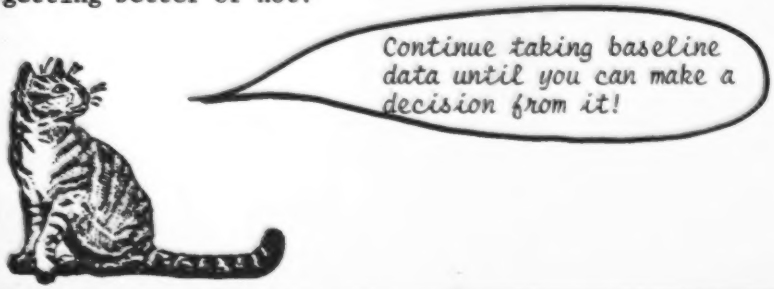
Why collect data before starting to change the behavior? Here we go again: another list! There are 3 reasons:

a *The baseline assessment lets you know where you really have a problem.* Let's say a client is often off-task and seems to be goofing around or daydreaming. You want to check his actual productivity and improve it. When you take the baseline data, you may discover that he is completing his quota of items and then waiting around for more materials. In that case, instead of working on productivity rate, you may wish to teach him how to look busy when he isn't, a critically important skill in competitive employment.

b *The only way to find out if your teaching works is to compare the behavior before you started teaching to the behavior after teaching.* Let's take the situation where you decide to work on reducing disruptive behavior and increasing production rate by a client. You may, with the best intentions, choose a method that makes these behaviors worse. But you won't know it unless you have baseline data.

c *The baseline data may help show you where to start in a program.* If a client cannot brush his teeth, he may still be able to do some of the steps. If he can consistently get his toothbrush and toothpaste, fill his glass and open the tube, you may not need to work on those behaviors. You might be able to concentrate on his skills at using the brush on the teeth. With a different client you may have to begin with the skill of identifying her toothbrush.

How long should baseline observations be? That depends. If you are teaching a new behavior and you are sure it has never happened before, try a day or two of baseline. If you are not sure how often the behavior occurs, or it seems quite variable, you may need several days of baseline. If it seems to be improving, you may want to continue baseline until it levels off or is no longer a problem. *You take baseline until you can make a decision from it.* Do we need to work on this skill or is it OK? Is it getting better or not?



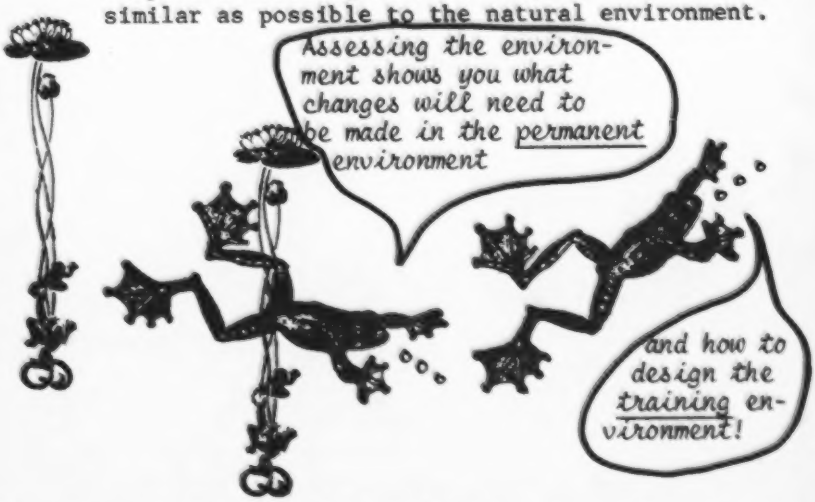
6

Assess the environment

Once you have set the goals and objectives and begun to measure the behavior, you should carefully observe the environment in which the behavior should be changed. If you are teaching a new behavior, you need to look at the environment in which you want the behavior to occur. For example, if you are teaching toothbrushing, you need to look at the home environment. This is true even if you are planning to teach toothbrushing at an activity center. After all, once training is complete, you want the client to brush her teeth at home. Looking at the home environment helps you in these two ways:

a *It makes you aware of any changes which will need to be made for the newly learned behavior to continue.* For example, you might want, right at the beginning, to emphasize that the client's parents require her to do as much of the toothbrushing as independently as possible.

b *It allows you to design the training environment so that it is as close as possible to the environment in which the behavior will be used.* You may often find that you can teach the behavior right in its natural environment. For example, you may be able to teach a vocational task right at the work station, or you may be able to teach conversation skills in the break area. Even if you need a special teaching environment, it should be as similar as possible to the natural environment.

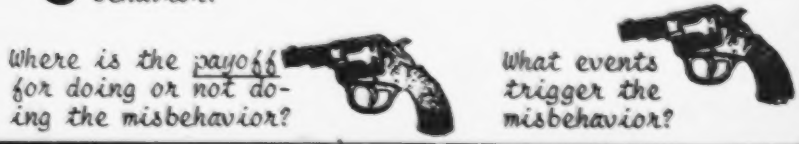

Assessing the environment shows you what changes will need to be made in the permanent environment
and how to design the training environment!

If you are trying to reduce a disruptive or otherwise unacceptable behavior, you should look carefully and try to answer these questions about the environment in which the behavior occurs:

a *Is there a payoff for the misbehavior?*

b *Is there any payoff for not doing the misbehavior?*

c *What events seem to consistently trigger the misbehavior?*



7

Establish and write an instructional procedure

Now you are ready to get to the nitty-gritty. How will we change the behavior and reach the short-term objectives? That's a good question. It is extremely important to remember this simple rule: *Plan first, then do.* Many people try one procedure after another, often haphazardly and without planning. Unfortunately, the first thing you think of is usually not the best thing you think of. You need to plan what you will do.

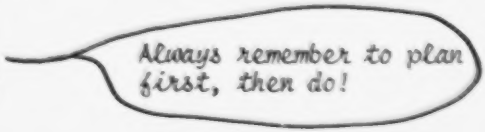
Now don't let us scare you. You don't have to stop and plan carefully every word you say to clients and every little thing you do. Sometimes clients do unexpected things and you have to respond to them. Many of the minor problems clients have can be handled simply and quickly. But when you are planning a way to reach an identified short-term objectt-ive which will require efficient and effective teaching and behavior management procedures, plan carefully before you start trying things.

When planning a program, follow these steps:

a *Set up a favorable environment:* If the client is easily distracted, start out in a quiet place. Then gradually move closer to the place where he needs to do the behavior.

b *Provide payoffs for learning and improving.*

c *Establish a consistent correction procedure.* Know what you will do when the client makes an error.



8

Implement the procedure and assess its effects

Well, you are all ready. . . What are you waiting for? It's time to get started! As you are using the program, keep looking at the data. See if the procedure is working. Give it some time, but don't spend weeks with an ineffective procedure.

9

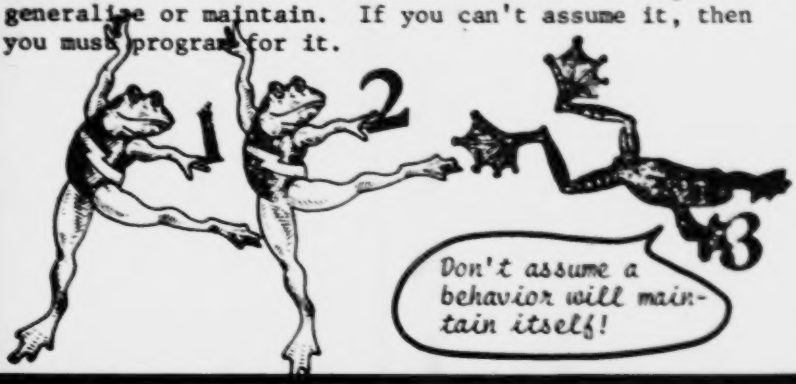
Modify the program if necessary

If the program doesn't work, revise it. If it works and you reach the objective faster than you expected, go to the next one. Pay attention to the data.

10

Establish programs for maintenance and generalizatio

When you spend the time and effort to teach a new skill or change a client's behavior, you want to make sure that the skill is used or the behavior maintained in the places where it is important. That means you must be concerned with whether the behavior carries over to important settings (that is, whether the behavior change *generalizes* and whether the behavior *maintains* over time. It is not unusual when working with severely handicapped people, to discover that behaviors which have been taught in one setting still don't occur in other settings. You cannot assume that behavior changes will generalize or maintain. If you can't assume it, then you must program for it.



11

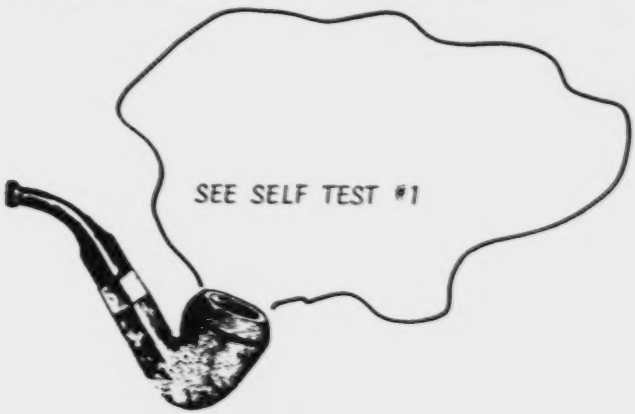
Communicate the results

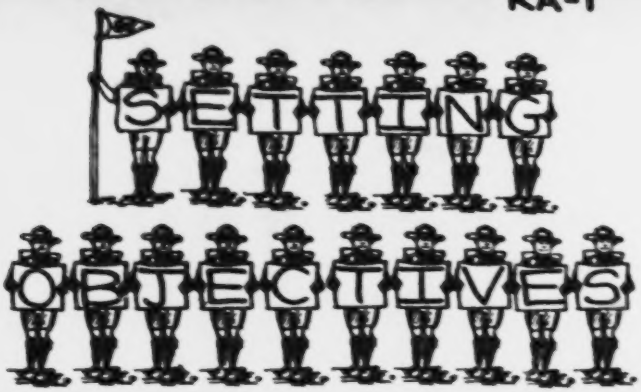
Make sure that the people who need to know and who have a right to know about a client's progress find out. The best way to do this is to chart the behavior measure for each objective and share these charts at IPP meetings. Charts allow for clear visual displays of progress.

Don't just file the results away. If people (including the client) are to make decisions which affect the client's life, they need to know what kind of progress the client is making.

Now you know what Systematic Instruction is all about. You have at least some idea of what the steps in the process are and how to go about doing them. The rest of this module provides more information and some practice at identifying well and poorly written short-term objectives and at identifying examples of the principles of behavior. Even when you finish all this, you still will have gotten only a taste of the "how-to-do-it." Remember that this is only an introductory module. Everything covered in this module will be covered in more detail somewhere else, perhaps in the course you are taking now and perhaps in a different course. If it looks like we think this is all very simple and you know it isn't, you're right.

Let's see now what you have learned about the components of Systematic Instruction. Remember, when you implement a teaching program, you should also assess the effects.





The first step in teaching a new skill or in changing a behavior is describing the desired behavior change. *Behavior should be described in a way that allows you to evaluate progress and determine when objectives are reached.* In setting objectives, you may go through a series of steps in which you specify the behavior more and more precisely.

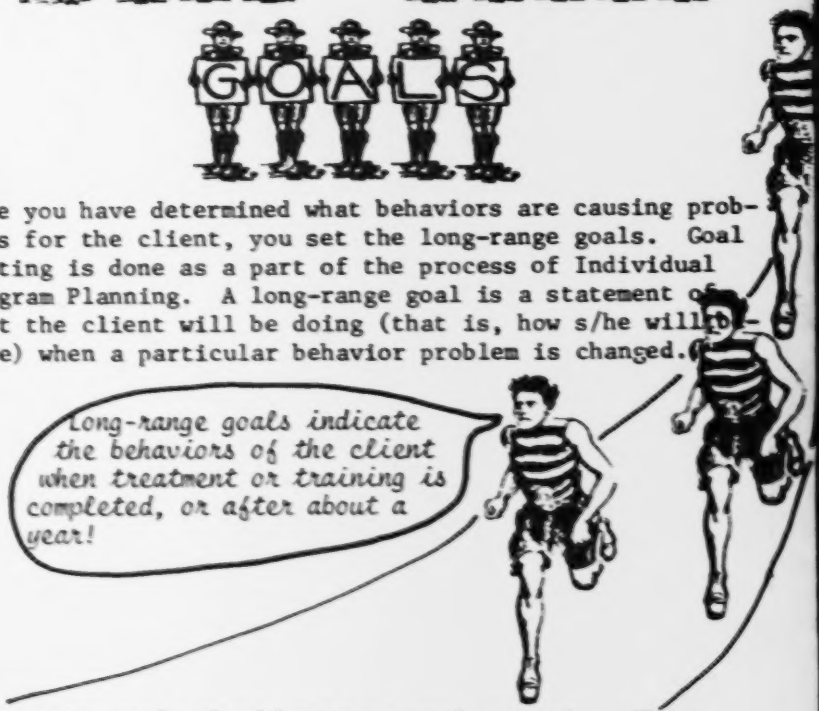
A behavior will usually come to your attention as either a *complaint* or a *goal*. A complaint is a statement that someone is doing something wrong or is behaving in an inappropriate or unacceptable way; a goal is a statement that someone needs to learn some new skill or behavior. Goals and complaints are generally stated in vague ways that do not make clear what the objectives of training should be.

When presented with a complaint, you should try to identify in clear, observable terms, what behaviors led to the complaint. If, for example, a client is labelled *unmotivated*, look for some behaviors which indicate to you lack of motivation. One such behavior for a particular client might be, *"Flora walks around the room when she should be working."* Alan might work hard during work time. However *"Alan comes in late at least once a week and misses work entirely at least once a week."*

Describe behavior in clear, observable terms which allow you to evaluate progress and determine when objectives are reached!

27

Once you have determined what behaviors are causing problems for the client, you set the long-range goals. Goal setting is done as a part of the process of Individual Program Planning. A long-range goal is a statement of what the client will be doing (that is, how s/he will behave) when a particular behavior problem is changed.



Long range goals should meet several criteria. These criteria will be explained briefly, along with a correct and incorrect example of each.

Criterion 1: *The statement involves action*

Verbs used are action verbs, not state-of-being verbs. A verb of action tells what someone does. For example, the verb *fight* is an action verb. *Eat* involves action. *Yell* involves action. These are different from state-of-being verbs which may involve the word *is*. For example, a

person *is aggressive*. He can't *do aggressive*, but he can fight, threaten, hit or tease. In writing a behavior statement be sure to use verbs that involve action.

EXAMPLES

Action Verbs		State-of-being verbs
talk	*walk*	*be*
point	*write*	*is*
fight	*ask*	*seem*
complete	*attend*	*become*
cry	*eat*	*have*
look	*say*	*has*
give	*lift*	

Mary needs to be more independent on the job

Mary will get more materials when she uses up what she has.

Criterion 2: *The behavior is observable*:

It can be seen by people other than the client. For example, you may write a behavior statement such as, "*Fred doesn't think before he acts.*" Unfortunately, you cannot really see that Fred does not think. It may be important to teach him to think before he acts, but you would need to develop some way of telling whether he does think; you cannot observe thinking by itself, so you have no way of knowing whether or not he is doing it.

EXAMPLES

Observable	Unobservable
Explain	*Understand*
Pick up	*Discriminate*
Choose	*Like*
Ask for	*Want*

Donna will know how to dress herself.

Donna will dress herself without help.

Criterion 3: *The behavior is the client's, not someone else's;*

Do not write goals that start with, *"Help John to . . ."* or *"Teach time to . . . "* Simply write what the *client* will do differently when he has met the goal

To teach Donna to dress herself.

Donna dresses herself without help.

Criterion 4: *The behavior is specific; what the client does is clearly described:*

How clear is clear? Try to write clearly enough so that someone else can read the goal and show you what the client will do.

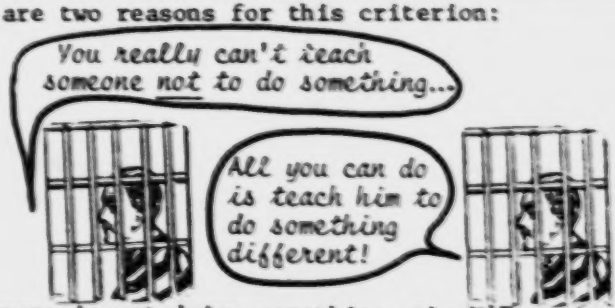
Jody pays more attention to her work.

Jody does her assigned work at the required accuracy level.

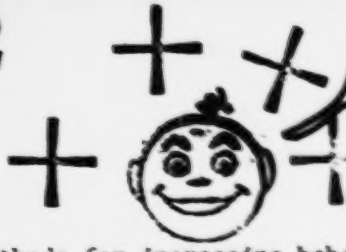
Criterion 5: *The long range goal must be stated in positive terms*, i.e., in terms of what the client will do instead of what he won't do:

There are two reasons for this criterion:

1



If someone is not doing something, then there is a void in time. He has to do something and what he does may be appropriate or inappropriate, adaptive or maladaptive. If someone is not fighting, he is doing something else. He might be negotiating, walking away, crying or trying to con someone else into fighting for him. You have to be sure that you target a behavior that a person can be doing.


2
Second, stating the long-range goal positively makes you more likely to use positive methods for changing the behavior!

Most methods for increasing behavior are relatively pleasant. On the other hand, stating the long-range goal in negative terms often leads you to punishment. If possible, you should state a long-range goal that is *incompatible* with the behavior you wish to reduce, incompatible behaviors are those which cannot occur at the same time. (For *example*, answering a problem correctly is incompatible with making a mistake on it). If you can increase an incompatible behavior, the problem behavior will automatically decrease. By targetting an incompatible behavior, you are more likely to use pleasant teaching methods than punishment.

Think about how a child learns to walk. We target *walking*, not *falling down*. We don't punish falling down. We really aren't concerned very much with how often the child falls down. We do not want to decrease falling down; we want to increase walking. A child who is first learning to walk falls down alot. That's OK, so long as the child continues to walk more and eventually begins to fall less often. The same holds true for many other behaviors. We want to increase appropriate responses to criticism, not merely decrease talking back. We want to increase cooperative working and playing, not just decrease bickering.

NOTE: Occasionally, problem behaviors may occur at such a high rate or may be so severe that they must be decreased immediately. If no incompatible positively stated goal can be found, a long-range goal may be stated in negative terms, such as *"Rex will not push his thumb against his eye."* Unfortunately, it seems much easier to write negative goals than to write positive ones. If most long-range goals are negative, a program can become suppressive and oriented toward punishment; teaching of new skills may be neglected. Therefore, this handout emphasizes positively stated goals.

As a general rule, you should have 5 positively stated goals for each negatively stated one!

3 2

If you are not sure whether the long-range goal is stated in terms of something that the client will actually do, then you might try the dead man's test. The "dead man's test," simply stated, is *"if a dead man can do it, it ain't behavior."* For example, a man talks too much in the workshop and does not get his work done. One possible target is, *"Elmo will sit quietly."* That sounds positive, since you want to increase quiet sitting. One way to get him to sit quietly is to choke him to death (then, of course, prop him up)! Sorry, this one does not pass the dead man's test. We realize you would not really try that method of changing the behavior (although instructors and supervisors often consider it), but even if you only used a mild punishment to reduce talking out and increase quiet sitting, what does the client gain? The other clients may find it easier to work, but your client has not learned anything. A better goal would be, *"Elmo completes assigned work."*

Juliet will not date Romeo. (The negative statement here obviously does not meet the dead man's test. Remember how Juliet stopped dating Romeo? She poisoned herself!

Juliet dates boys other than Romeo.

"Rex will play quietly"

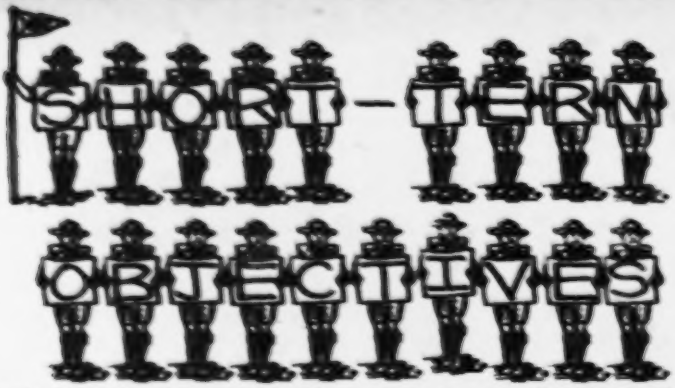
Criterion 6: *Avoid the words "can," "is able to" and "learns to:"*

You do not want to use these in a long range goal (which is a statement of what the client will do at the end of training) because they imply that he cannot do the goal behavior now. That implication may or may not be accurate; given the right conditions, he might perform the behavior with no further training. You want to state a long range goal in terms of what the client *does*, not in terms of what he *can* do.

Sam will learn to make pallets.

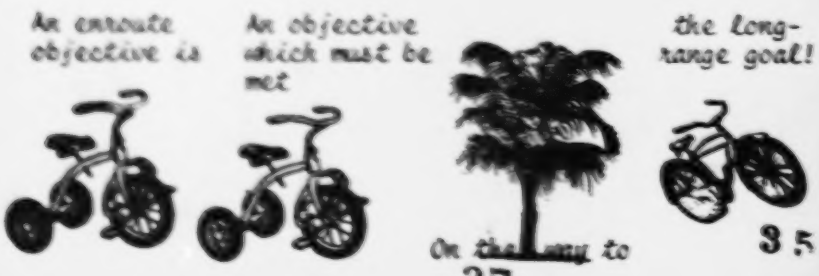
Sam makes pallets.

Sam will make pallets.



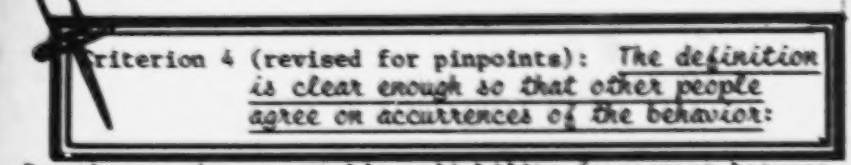
For each long-range goal, there may be one or more short-term, or *en route objectives* An en route objective is exactly what the name implies; it is *an objective which must be met on the way to the long-range goal.* If you are driving from Des Moines to Iowa Falls, first you may reach Ames; if a client is learning to use the toilet correctly without reminders, s/he may first learn to use the toilet correctly when reminded to do so.

There may be several possible en routes to one goal. You can pass Ames on the way to Iowa Falls, or you may go through Colo and miss Ames altogether. In the same way, toilet training of a client may involve the en route objective of doing each step with reminders, or it may involve the en route objective of doing each step with reminders, or it may involve the en route objective of moving bowels after being placed on the toilet (but without reminders. The number of enroute objectives and what the objectives should be depends on how you will teach and how easily the client reaches each objective. If there is more than one en route objective, you must be sure that they are sequenced from simpler to more complex or from easier to more difficult.



En route objectives are written in the form of *pinpoints*. Before you begin working on an objective, it must be pinpointed so that you know exactly what behavior you are trying to get. If you do not pinpoint, you are liable to be inconsistent in your teaching. You may accept a behavior sometimes and reject it at other times, or you may give unclear instructions and prompts. Pinpointing helps you teach more consistently and efficiently.

Pinpointing is the very clear and precise definition of the behavior of interest. *A pinpoint is a behavior defined in such a way that it can be measured, with agreement between independent observers.* The criteria for a pinpoint are the same as the criteria for a long-range goal with one change and some additions. First, criterion [*the behavior is specific*] needs to be changed slightly.



Criterion 4 (revised for pinpoints): *The definition is clear enough so that other people agree on occurrences of the behavior:*

In other words, acceptable reliability (agreement between independent observers) must be found. When you first pinpoint a behavior, of course, you do not know whether you will get reliable agreement on occurrence, so that you expect observers to agree. One way to check your poinpoints is to act it out for people and to see if they can tell when it occurs. Then you just investigate reliability by having two people observe the client's behavior and comparing their recording of occurrences. When you are very experienced in defining a particular form of behavior, you have a good chance of pinpointing it on the first try; but even when you are experienced, your first attempt at pinpointing often will not produce acceptable agreement. In that case, you need to revise your pinpoint until you can get reliable agreement. It may take 4 or 5 (or more) but you'll get it eventually.

Melinda practices an adequate job interview.

Melinda, in a practice job interview, greets the interviewer upon entering, looks at him at least 40% of the time he talks and answers each question with at least a one full-sentence answer.

In order to observe progress, you need to pinpoint the behavior; in order to determine whether a program has been successful, you need to determine the amount of change in the behavior which will satisfy the client's needs. The purpose for setting objectives is to clarify when the pinpointed behavior should occur and what criterion of performance will establish that the behavior change program is successful.

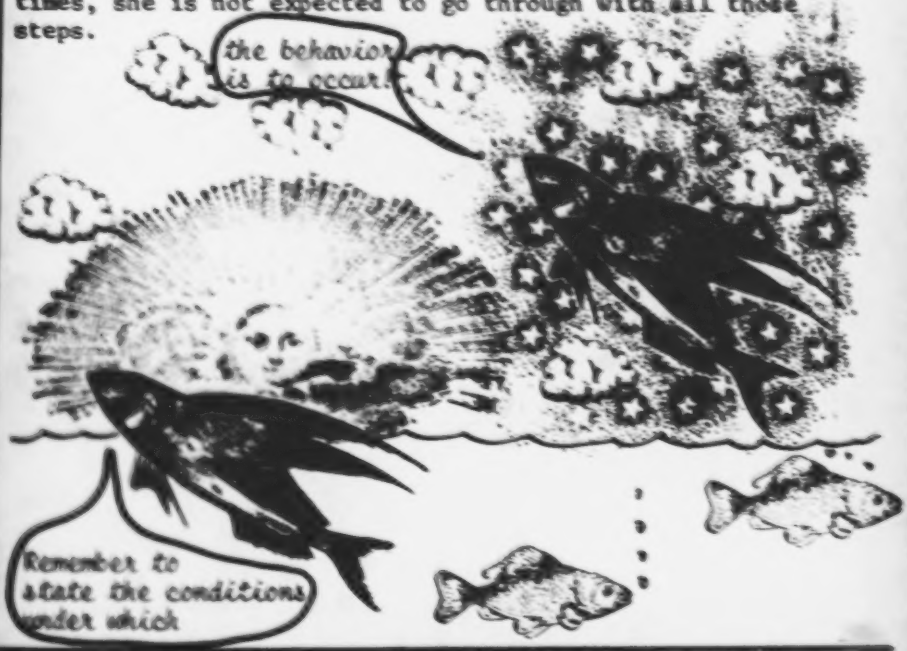
The main component of an objective is the pinpoint. In addition to the pinpoint, an objective should contain two other elements:

Criterion 7: *The conditions under which the behavior is to occur are stated:*

Some behaviors are appropriate under some conditions, but not under other conditions. For example, a man who washed his hands over and over would be viewed as a little strange; people might even label him a "compulsive hand washer." However, washing hands is desirable under conditions such as *after going to the bathroom, after working in the garden or within two minutes before coming to the dinner table.* Yelling on the ball field is part of playing, but yelling in the workshop is usually considered inappropriate.

Some behaviors are desirable under most conditions, but attempts to change the behaviors are limited. For example, a woman might be generally friendly and cooperative. However, when a request she makes is refused, she may throw rather violent tantrums. The target may involve negotiating (pinpointed as "Sara describes what she wants, requests

feedback, summarizes any discrepancy, suggests at least two alternative solutions and states a solution agreed to by both parties.") The condition under which the behavior is to occur is "*when a request is refused.*" At other times, she is not expected to go through with all those steps.



Criterion 8:	*The criteria to which the behavior must be performed are stated*:

Once you establish what the behavior is and under what conditions it will occur, you need to establish how well it must be done for you to consider it successful. In other words, at what point will you consider the client to be ready for the next en route objective?

In other words the objective tells how much the behavior must change if the program is to be considered successful. If a client in a workshop attended to his work during 40% of the observed period, would his attending to task be considered acceptable? Probably not, although some supervisors who have already labelled a client *slow* or *emotionally*

disturbed might accept that lower level; once a client has been labeled in some negative way, people often assume he can't do as well as others (an untrue assumption). Would a supervisor consider "attending to task during 80% of the period" acceptable? Probably yes, so a criterion of 80% of the session would be appropriate. Sometimes a criterion is arbitrary: other times, it is determined by the level of behavior necessary for success at a more difficult or complicated task, or by the effects of the behavior on other people (some behaviors are often considered either absolutely necessary or completely intolerable).

Criteria may look like these:

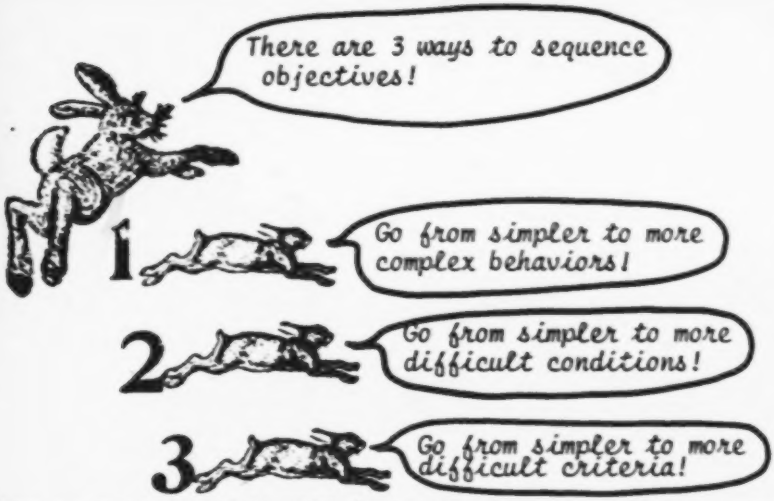
"With 90% accuracy for two consecutive days"

"With no errors for one day"

"At least 15 times for two consecutive meals"

Criterion 9: *The en route objectives are listed in a sequence which leads toward the long-range goal.*

Of course, the object of preparing en route objectives is to help your client reach his/her long-range goals. Most long-range goals (but not all) require more than one en route objective.


There are 3 ways to sequence objectives!
1
Go from simpler to more complex behaviors!
2
Go from simpler to more difficult conditions!
3
Go from simpler to more difficult criteria!

Using an example of Matilda's eating, here are some examples:

En route objective 1: *With verbal instructions, demonstrations and one physical prompt per meal, Matilda holds her fork by the handle, picks up bites of solid food and puts them in her mouth without dropping them with no more than five errors for 3 consecutive meals.*

Possible Sequences

Change behaviors

En route objective 2: *With verbal instructions, demonstrations and one physical prompt per meal, Matilda holds her fork and her spoon by the handle, picks up bites or spoonfuls and puts them in her mouth without dropping or spilling, with no more than five errors per meal for 3 consecutive meals.*

Notice that the second objective was cumulative. That is, when Matilda began to use her fork successfully, we did not drop it and work on using a spoon. We moved on to using a spoon and fork. Notice that we didn't have to write that she used only one utensil at a time. That is implied.

2 *Change conditions*

En route objective 2: *Without help, Matilda holds her fork by the handle, picks up bites of solid food and puts them in her mouth without dropping them, with no more than 5 errors per meal for 3 consecutive meals.*

3 *Change criteria*

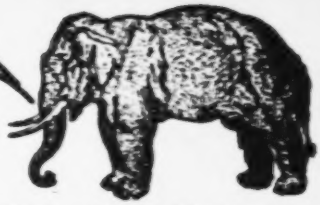
En route objective 2: *With verbal instructions, demonstrations and one physical prompt per meal, Matilda holds her fork by the handle, picks up bites of solid food and puts them in her mouth without dropping them, with no more than 2 errors per meal for one week.*

How many en route objectives do you need to write for each long-range goal? That is hard to say. It depends on how big the change in behavior is, at what skill level the client is starting, how good you are at teaching the skill and how long you have to teach. In general, *if a client is having great difficulties reaching an en route objective, you need to break it down further.*

Each en route objective should be a small change which clearly shows progress from the previous en route objective.

Remember the 3 parts of a short-term objective:

1. *Conditions*
2. *Behavior (pinpointed)*
3. *Criteria*



All behavioral objectives should include the following three components:

1 *Behavior*: A description of expected terminal behavior goal which can be observed by at least two independent observers.

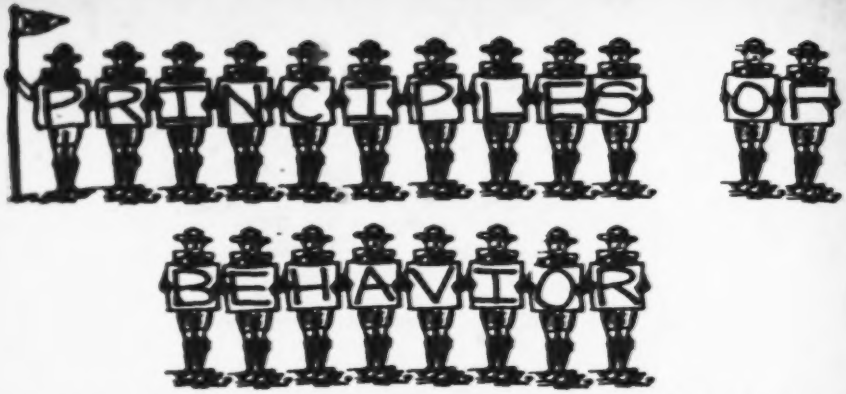
2 *Conditions*: A statement of the conditions under which the behavior is to occur.

3 *Example*: Given a baseball and glove, the student will throw the ball into the air and catch it seven times out of ten.

The ball should be thrown at least five feet into the air!

Conditions	*Behavior*	*Criteria*
Given a baseball and glove	The student will throw the ball in to the air and catch it.	When thrown in the air at least five feet, the ball will be caught seven times out of ten.

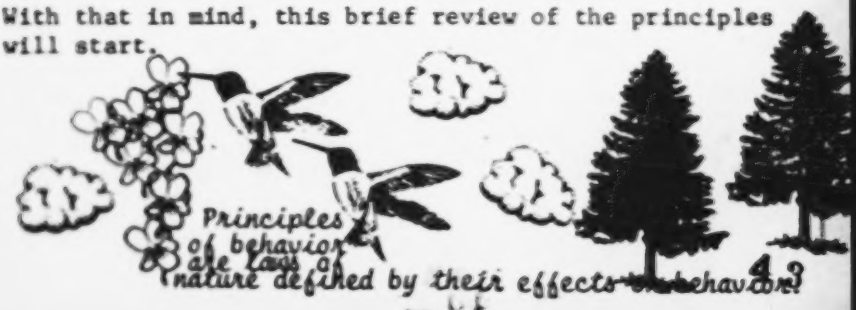
42



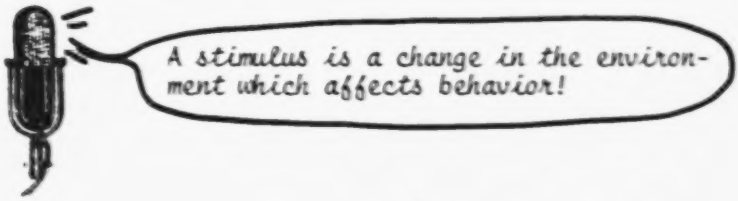
In this section, we will discuss some of the principles of behavior. For some students, this will be a review. For others, it will be new information. In any case, we will try to keep it simple. Only these principles and items will be covered: *reinforcer, reinforcement, punisher, punishment, stimulus discrimination, discriminative stimulus* and *extinction*. This section is meant only to give you a basic knowledge of some terms which will be used in later modules. It will not teach you how to use the principles. It will only help you to be able to recognize some of the words and to know an example of each when you see one.

These principles of behavior are well-documented. They affect our lives each day. Whether we like them or not, whether we understand the logic behind them or not makes no difference. Like gravity, they are laws of nature. But they are not simple. The world is complex and many things affect people's behavior. For that reason, we will emphasize over and over that these principles are defined *by their effects on behavior*. If you don't understand yet what that means, don't worry. You will soon.

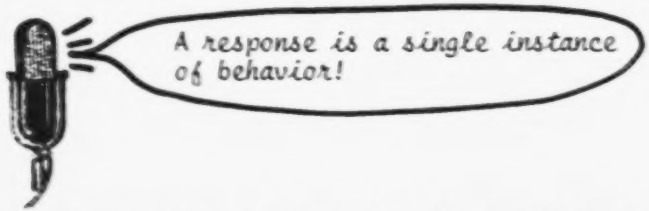
With that in mind, this brief review of the principles will start.



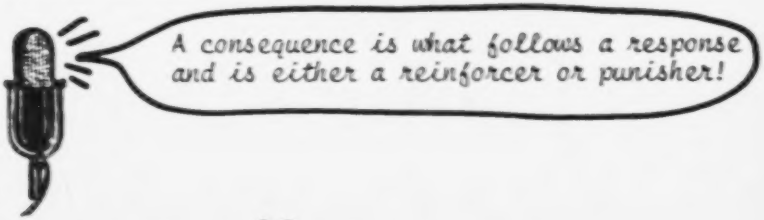
First, we need to divide events into *stimuli* and *responses*. A stimulus is *any change in the environment which affect the behavior of a person*. When light hits a person's eye, his pupil gets smaller; light, in this case, is a stimulus. If a loud noise startles someone, the noise is a stimulus. If the person is completely deaf and the loud noise does not startle her, it is *not* a stimulus for her. *If a change in the environment does not affect behavior for a person, it is not a stimulus for that person.*



A response is something a person does. *A single instance of a behavior is called a response.* A response is an observable change in behavior



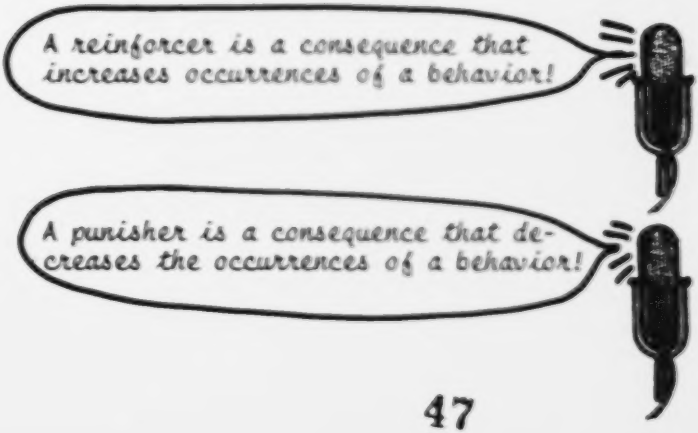
Consequent stimuli: *A consequence is something which comes after a response.* A consequent stimulus comes after the behavior it affects. How can a stimulus affect a behavior which has already happened? It doesn't, really. It makes it more or less likely that the behavior will happen *again*. There are two kinds of consequent stimuli: reinforcers and punishers.



Reinforcers are consequences that **increase** the likelihood that a behavior will happen again. That is, they *make the behavior happen more often or at a greater strength or intensity.* They are usually events that we consider positive or rewarding. However, sometimes negative events such as criticism may serve as reinforcers for some people. The only way to tell if a consequence is a reinforcer is to see whether it increases the occurrences of the behavior it follows.

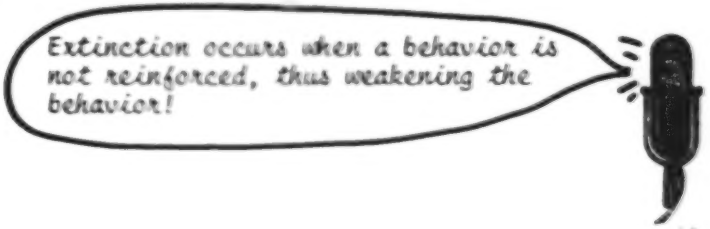
Punishers are consequences that **decrease** the likelihood that a response will occur again. *Punishers make responses that they have followed occur less often in the future.* Punishers are usually events that we would consider negative or annoying. That is not always true. Some of your clients, for example, may do more of a behavior if you often criticize them after they do it. Sometimes any attention, even criticism, is better than no attention at all. In that case, criticism may serve as a reinforcer (even though you intend it to be a punisher). In the same way, a client who prefers to be alone may decrease a behavior which you praise. In that case, praise would be a punisher.

Since reinforcers and punishers are both consequences, there is only one way to tell whether a stimulus is a reinforcer or a punisher. Look carefully to see whether the behavior increases (showing that the stimulus is a reinforcer) or decreases (showing that the stimulus is a punisher). The very same stimulus may be a reinforcer for one client and a punisher for another. It may even be a reinforcer for a client at some times, but not at others (for example, snacks may not be reinforcing right after dinner).


A reinforcer is a consequence that increases occurrences of a behavior!
A punisher is a consequence that decreases the occurrences of a behavior!

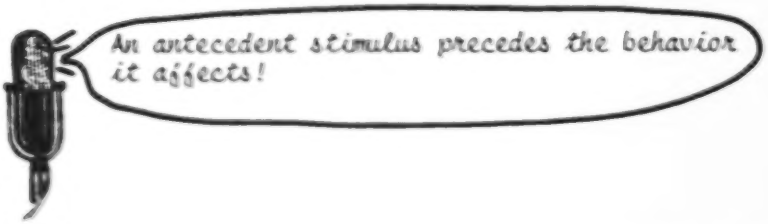
Extinction: *If a behavior which has been reinforced in the past is no longer reinforced, the behavior will weaken.* This process is called *extinction*. In extinction, the behavior does not usually disappear entirely but returns to about its rate before reinforcement began.

Extinction may also occur for punished behaviors. If they are no longer punished, they may begin to occur more often. Extinction does not mean ignoring the client. It means ignoring a specific behavior.



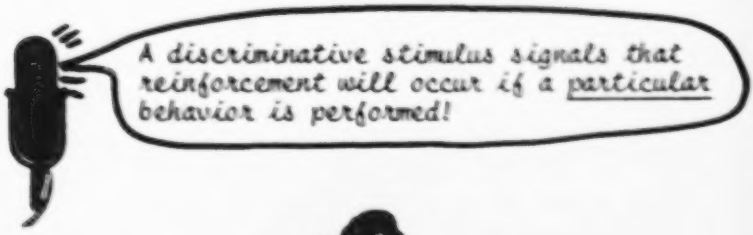
Antecedent stimuli: An antecedent is something which comes before a response. *An antecedent stimulus comes before the behavior it affects.* The above examples of the light and the loud noise are antecedent stimuli. An antecedent may affect behavior in one of two ways:

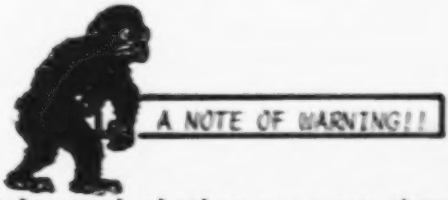
1. *It may cause a reflex behavior to occur.*
2. *It may signal when a behavior will be reinforced.*



Discrimination: If a behavior is reinforced in one situation (for example, the workshop) but is ignored in another situation (for example, home), it will increase only in the place where it is reinforced. This is called discrimination. After a while, *the person discriminates one stimulus from another.* When an antecedent stimulus signals that reinforcement will occur if the client performs a particular behavior, that stimulus is called a *discriminative stimulus.* In the presence of a discriminative

stimulus, a response is reinforced (and occurs more often). In the absence of that discriminative stimulus, the response is not reinforced (and occurs less often). To use a simple example, we learn that green lights signal "GO" and red lights signal "DON'T GO."



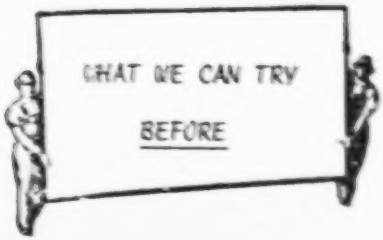


Remember, these principles work whether you want them to or not. You may accidentally reinforce (increase) a misbehavior that you really don't want. Other clients may reinforce or punish behaviors. Working with clients will be easier if you use the principles of behavior carefully.

Remember also that completing this module does not make you an expert on any of the techniques covered. The module was not intended to teach you how to write objectives or do task analyses or use behavior principles. It was only intended to clarify the philosophy behind the rest of the course and to assure that you understand, at least a little some of the language which will be used in later modules.

SEE SELF-TEST #3 47

OUR INFLUENCE ON FUNCTION



A GOOD JOB!

Ask or request	Promise something
Demand	Plead with or beg
Give job to do	Encourage
Post notice	Remind or prompt
Set a goal	Threaten
Inform	Expect
Instruct	Model or demonstrate
Challenge	Guide

OTHERS IS A

OF:

A GOOD JOB!

Thank	Pay
Compliment	Give bonus
Commend	Award
Praise	Show appreciation
Congratulate	Allow or admit
Pat on the back	Get off their back
Pay attention to	Recognize

A POOR JOB!

Punish	Fire
Ridicule	Model or demonstrate
Give cold shoulder	Guide
Dock their pay	Instruct
Ignore	

Bellamy, G.T., Horner, R.H., and Inman, D. Vocational habilitation of severely retarded adults: A direct service technology. University Park Press, 1979. Selected pages handed out.

Bellamy, G.T., Horner, R.H. and Inman, D. Vocational habilitation of severely retarded adults. Remainder of book.

Paine, S., and Willans, A. Instruments for the measurement and recording of human behavior: a review. Forum for behavior technology, 1975, 1 (1).

North Dakota Department of Public Instruction and Midwest Regional Resource Center. Behavioral terminology.

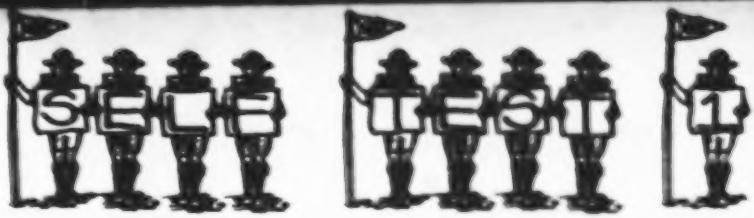
Sanders, R. Behavior modification in a rehabilitation facility. Southern Illinois University Press, 1975.

Schuler, C.F., Simplifying b'mod principles for use in training and HRD. Training HRD, 1978 (November), 23-24.

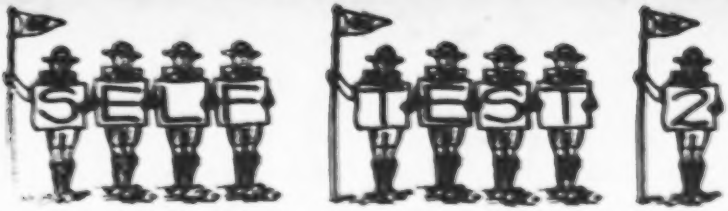
Tarkenton, F. PF/PR: Fran Tarkenton uses it on the gridiron and sells it in the boardroom. Training HRD, 1978 (December), 26-27.

FILMS

Mager, R. Who did what to whom? Research Pres



1. Give two reasons why it is important to measure behavior.
2. What are two reasons for the use of task analysis?
3. What are two reasons for taking baseline data before starting instruction?
4. List the steps in systematic instruction.



For each of the following objectives, mark whether it has *conditions*, a clearly *pinpointed behavior*, and *criteria*:

1 Manuel washes his hands after going to the bathroom.

	Yes	No
Conditions		
Behavior		
Criteria		

2 Manual washes his hands completely covering them with lather and rinsing them off, after going to the bathroom.

	Yes	No
Conditions		
Behavior		
Criteria		

3 Manuel washes his hands, completely covering them with lather and rinsing them off, after going to the bathroom, each time for 1 week.

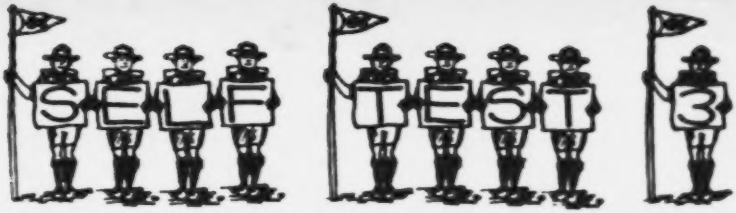
	Yes	No
Conditions		
Behavior		
Criteria		

4 Manuel shows a clear understanding of the need for personal hygiene and cleanliness following urination and defecation.

	Yes	No
Conditions		
Behavior		
Criteria		

5 Bertine assembles at least 50 widgets per day for 5 consecutive workdays with at least 98% meeting contract tolerance

	Yes	No
Conditions		
Behavior		
Criteria		



For each of the following situations, circle whether the stimulus (underlined) is a reinforcer, punisher or neutral stimulus. Then look at the answer and explanation before going on.

1 Tad spends most of his time looking around, playing with his fingers or non-work objects and making strange noises. He rarely attends to his work of packaging golf tees. His floor supervisor, Rona, checks him periodically. She tells him that he is to fill all the compartments in an egg carton with packages of golf tees, one to a compartment. When he has done so, she allows him to sit in an easy chair for five minutes. His rate of packaging tees goes from 12 packages/hour to 41 packages/hour

REINFORCER PUNISHER NEUTRAL DON'T KNOW

Answer: This was a consequence that increased the behavior, so it was a reinforcer.

2 Although Tad is working harder, he is still making strange noises. Now following each noise, Rona removes one package of tees from the egg carton. His rate of making noises decreases from 0.5/min to 0.1/min.

REINFORCER PUNISHER NEUTRAL DON'T KNOW

Answer; This was a consequence that decreased the behavior, so it was a punisher.

3 While Rona is off work because of illness, John supervises her area. Whenever Tad makes a strange noise, John tells him to be quiet. His rate of making noises is up to 0.4/min by the end of the day.

REINFORCER PUNISHER NEUTRAL DON'T KNOW

Answer: This consequence increased the behavior, so it was a reinforcer.

4 Jolene usually looks sloppy. She rarely combs her hair. One morning she arrives at work dressed in clean clothes and with her hair combed. Rona and John both tell her that she looks nice. Rona says, "Your hair really looks great. I love it. Keep combing it that way."

REINFORCER PUNISHER NEUTRAL DON'T KNOW

Answer: The correct answer is "don't know." The situation does not tell what happened to the behavior of combing hair.

5 In the above situation, Jolene came to work the next few days looking sloppy. Finally, one day she came with combed hair again. She was praised again. The next few days she looked sloppy. When she combed her hair, she was praised. It didn't seem to matter.

REINFORCER PUNISHER NEUTRAL DON'T KNOW

Answer: The praise did not affect the behavior. It is a neutral consequence.

For each of the following situations, circle whether the stimulus (underlined) is a discriminative stimulus or not.

6 Mel is being taught to dress and undress himself. He is to do so in the bathroom. The teaching procedure is working. Mel can now undress himself with little help. Unfortunately, he does so in the living room, front yard, and workshop.

YES NO

Answer: The bathroom is not serving as a discriminative stimulus. The program should be revised in some way so that it will.

7 When Frank is told to do something, he sometimes begins to bite himself and shake his fist. Most of the staff ignore him when he does so, as he does not bite hard enough to break his skin. John, however, lectures him about how he might hurt himself. When John is around, he bites himself often. When John is not around, he rarely bites himself.

YES NO

Answer: John is serving as a discriminative stimulus. He is the only staff member who reinforces this behavior with attention, so his presence signals Frank to bite.

8 Tad, the man who is packaging golf tees, works very hard when he has to fill an egg compartment with packages in order to earn a break. He is assigned to a different job, packaging rubber bands. His work rate decreases at first.

YES NO

Answer: Even though the egg carton is still there and the break consequence is still available, Tad has slowed down. Apparently, the golf tees served as a discriminative stimulus. At least some retraining will be required in order to assure that the egg carton, rather than the task, becomes a discriminative stimulus.